

**FIGURE 1**

$V_{\lambda}$

Leu Glu Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser  
 5 10 15 20  
 Gly Phe Ala Phe Ser Tyr Asp Met Ser Trp Val Arg Gln Ile Pro Glu Lys Arg Leu Glu Trp  
 25 30 35 40  
 Val Ala Lys Val Ser Ser Gly Gly Gly Ser Thr Tyr Tyr Leu Asp Thr Val Gln Gly Arg Phe Thr  
 45 50 55 60 65  
 Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Asn Ser Glu Asp Thr  
 70 75 80 85  
 Ala Met Tyr Tyr Cys Ala Arg His Asn Tyr Gly Ser Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val  
 90 95 100 105 110  
 Thr Val Ser Ala Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala  
 115 120 125 130

FIGURE 2a

$V_{\kappa}$

Glu Leu Val Met Thr Gln Thr Pro Ala Thr Leu Ser Val Thr Pro Gly Asp Ser Val Ser Leu Ser  
 5 10 15 20  
 Cys Arg Ala Ser Gln Ser Ile Ser Asn His Leu His Trp Tyr Gln Gln Lys Ser His Glu Ser Pro  
 25 30 35 40  
 Arg Leu Leu Ile Lys Tyr Ala Ser Gln Ser Ile Ser Gly Ile Pro Ser Arg Phe Ser Gly Ser Gly  
 45 50 55 60 65  
 Ser Gly Thr Asp Phe Thr Leu Ser Ile Asn Ser Val Glu Thr Glu Asp Phe Gly Met Tyr Phe Cys  
 70 75 80 85  
 Gln Gln Ser Asn Ser Trp Pro His Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala  
 90 95 100 105

FIGURE 2b

FR 1

V <sub>K</sub>	.	.	Thr	Gln	Thr	Pro	Ala	Thr	Leu	Ser	Val	Thr	Pro	Gly	Asp	Ser	Val	Ser	Leu	Ser	Cys
#1	.	.	-	-	Ser	-	Gly	Thr	-	-	Leu	Ser	-	-	Glu	Arg	Ala	Thr	-	-	-
#2	.	.	-	-	Ser	-	Gly	Thr	-	-	Leu	Ser	-	-	Glu	Arg	Gly	Ser	-	-	-
#3	.	.	-	-	Ser	-	Gly	Thr	-	-	Leu	Ser	-	-	Glu	Arg	Ala	Thr	-	-	-
#4	.	.	-	-	Ser	-	Ser	Ser	-	-	Ala	Ser	Val	-	-	Arg	-	Thr	Ile	Thr	-
#5	.	.	-	-	Ser	-	Ser	Ser	-	-	Ala	Ser	Val	-	-	*	-	Thr	Ile	Thr	-
#6	.	.	-	-	Ser	-	Ser	Ser	-	-	Ala	Ser	Val	-	-	Arg	-	Thr	Ile	Thr	-

FIGURE 3a

CDR1

V <sub>K</sub>	Arg	Ala	Ser	Gln	Ser	Ile	Ser	Asn	His	Leu	His
#1	-	-	-	-	-	Val	-	Ser	Ser	Tyr	Leu
#2	-	-	-	-	-	Val	-	Ser	Ser	Phe	Leu
#3	-	-	-	-	-	Val	Thr	Ser	Ser	Tyr	Leu
#4	-	-	-	-	-	-	-	Thr	Phe	-	Asn
#5	-	-	-	-	-	-	-	Ser	Tyr	-	Asn
#6	-	-	-	-	-	-	-	Ser	Tyr	-	Asn

FIGURE 3b

FR2

V <sub>K</sub>	Trp	Tyr	Gln	Gln	Lys	Ser	His	Glu	Ser	Pro	Arg	Leu	Leu	Ile	Lys
#1	-	-	-	-	-	Pro	Gly	Gln	Ala	-	-	-	-	-	Tyr
#2	-	-	-	-	-	Pro	Gly	Gln	Ala	-	-	-	-	-	Tyr
#3	-	-	-	-	-	Pro	Gly	Gln	Ala	-	-	-	-	-	Tyr
#4	-	-	-	-	-	Pro	Gly	Lys	Ala	-	Lys	Phe	-	-	Tyr
#5	-	-	-	Arg	-	Pro	Gly	Lys	Ala	-	Lys	Leu	-	-	Tyr
#6	-	-	-	-	-	Pro	Gly	Lys	Ala	-	Lys	Leu	-	-	Tyr

FIGURE 3c

CDR2

V <sub>K</sub>	Tyr	Ala	Ser	Gln	Ser	Ile	Ser
#1	Gly	-	-	Ser	Arg	Ala	Thr
#2	Gly	-	-	Ser	Arg	Ala	Thr
#3	Gly	-	-	Ser	Arg	Ala	Thr
#4	Ala	-	-	Thr	Leu	Gln	-
#5	Ala	-	-	Thr	Leu	Gln	-
#6	Ala	-	-	Thr	Leu	Gln	-

FIGURE 3d

FR3

V <sub>K</sub>	Gly	Ile	Pro	Ser	Arg	Phe	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Ser	Ile	Asn	Ser
	Val	Glu	Thr	Glu	Asp	Phe	Gly	Met	Tyr	Phe	Cys								
#1	-	-	-	Asp	-	-	-	-	-	-	-	-	-	Ile	-	Thr	-	Ser	Arg
	Leu	-	Pro	-	-	Ala	Val	-	Tyr	-									
#2	-	-	-	Asp	-	-	-	-	-	-	-	Val	-	-	-	Thr	-	Ser	Arg
	Leu	-	Pro	-	-	Ala	Val	-	Tyr	-									
#3	-	-	-	Asp	-	-	-	-	-	-	-	-	-	Ile	Phe	Thr	-	Ser	Arg
	Leu	-	Pro	-	-	Ala	Val	-	Tyr	-									
#4	-	Val	-	-	-	-	-	-	-	-	-	-	-	-	-	Thr	-	Ser	-
	Leu	Gln	Pro	-	-	Ala	Val	-	Tyr	-									
#5	-	Val	-	-	-	-	-	-	-	-	Ala	-	-	-	-	Thr	-	Ser	-
	Leu	Gln	Pro	-	-	Ala	Val	-	Tyr	-									
#6	-	Val	-	-	-	-	-	-	-	-	-	-	-	-	-	Thr	-	Ser	-
	Leu	Gln	Pro	-	-	Ala	Val	-	Tyr	-									

FIGURE 3e

	LCDR1	LCDR2
mouse	Arg Ala Ser Gln Ser Ile Ser Asn	(Lys) Tyr Ala Ser Gln Ser Ile Ser
selected human		
3 x	Arg Ala Ser Gln Asp Ile Gly Thr	(Lys) Tyr Ala Ser Gln Pro Val Phe
2 x	Arg Ala Ser Gln Asp Ile Gly Asn	(Lys) Tyr Ala Ser Gln Pro Val Phe
1 x	Arg Ala Ser Gln Ser Ile Gly Trp	(Lys) Tyr Ala Ser Gln Ser Ile Ser
unselected human		
	Arg Ser Ser Gln Ser Ile Asn Ile	(Tyr) His Ala Ser Lys Arg Ala Ser
	Arg Ala Ser Gln Ser Val Ser Asn Asn	(Tyr) Arg Ala Ser Ser Arg Ala Thr
	Arg Ser Ser Gln Ser Leu Val Tyr Ser Asp Gly Asn Thr	(Tyr) Lys Val Ser Asn Arg Asp Ser
	Thr Ala Ser Gln Ser Leu Val Tyr Thr Asp Gly Asn Thr	(Tyr) Met Val Ser Asn Arg Asp Ser

FIGURE 4

20051201 09434001

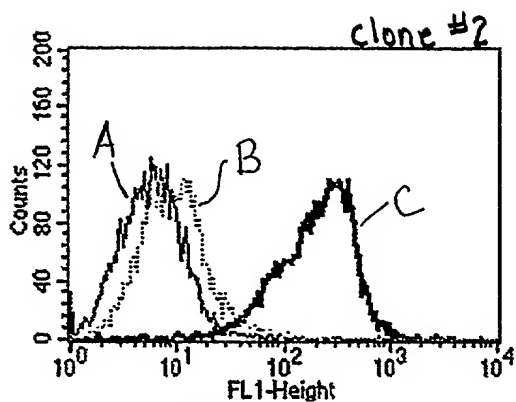


FIGURE 5a

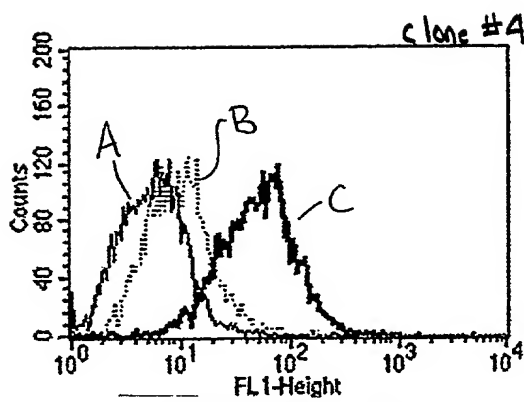


FIGURE 5b

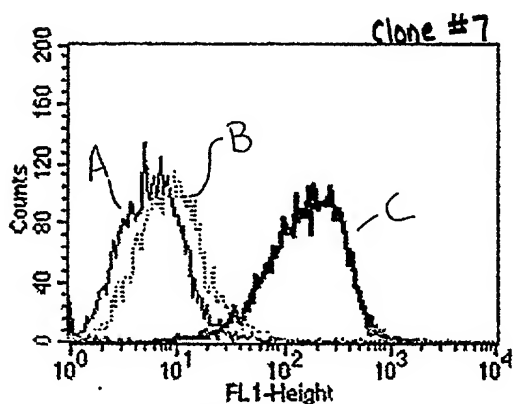


FIGURE 5c

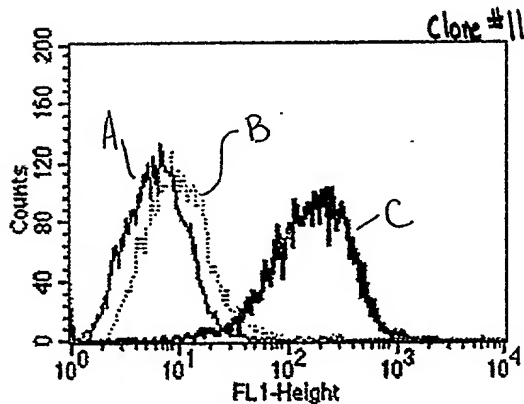


FIGURE 5d

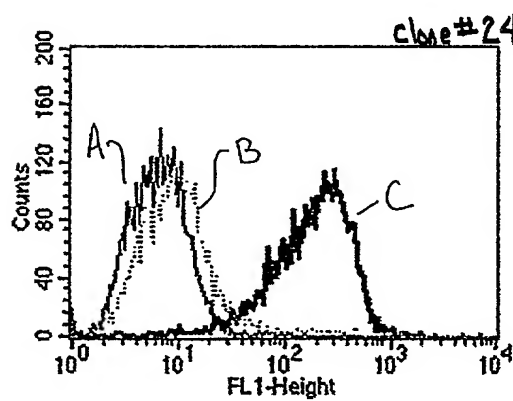


FIGURE 5e

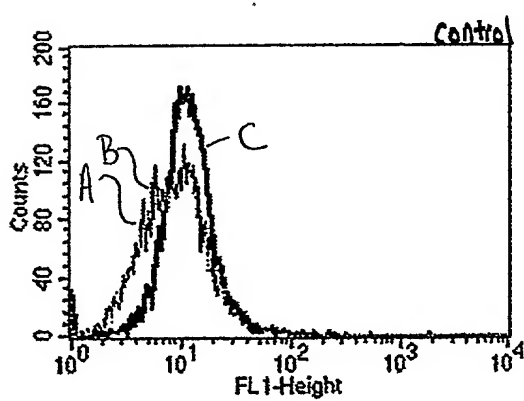


FIGURE 5f

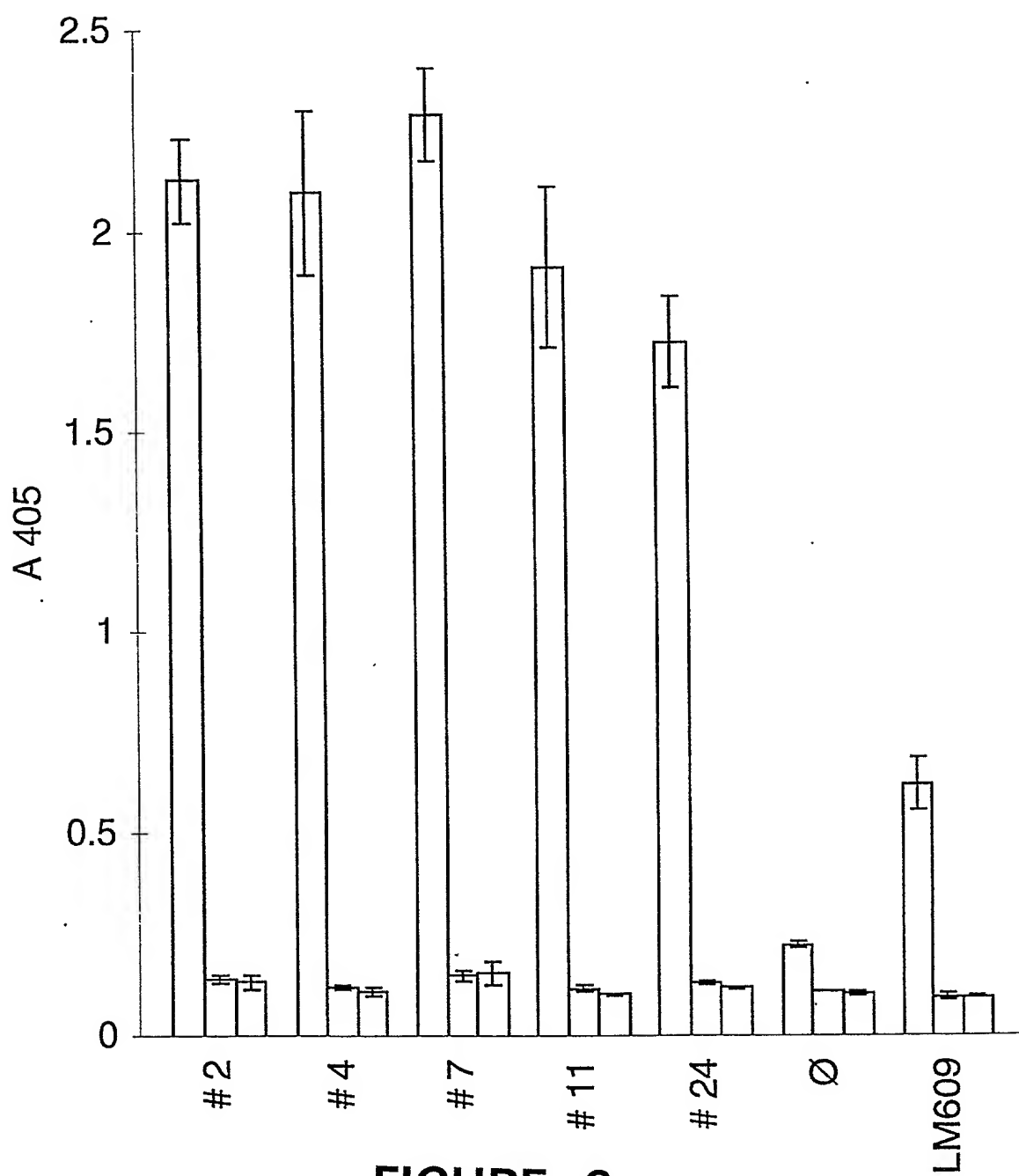


FIGURE 6



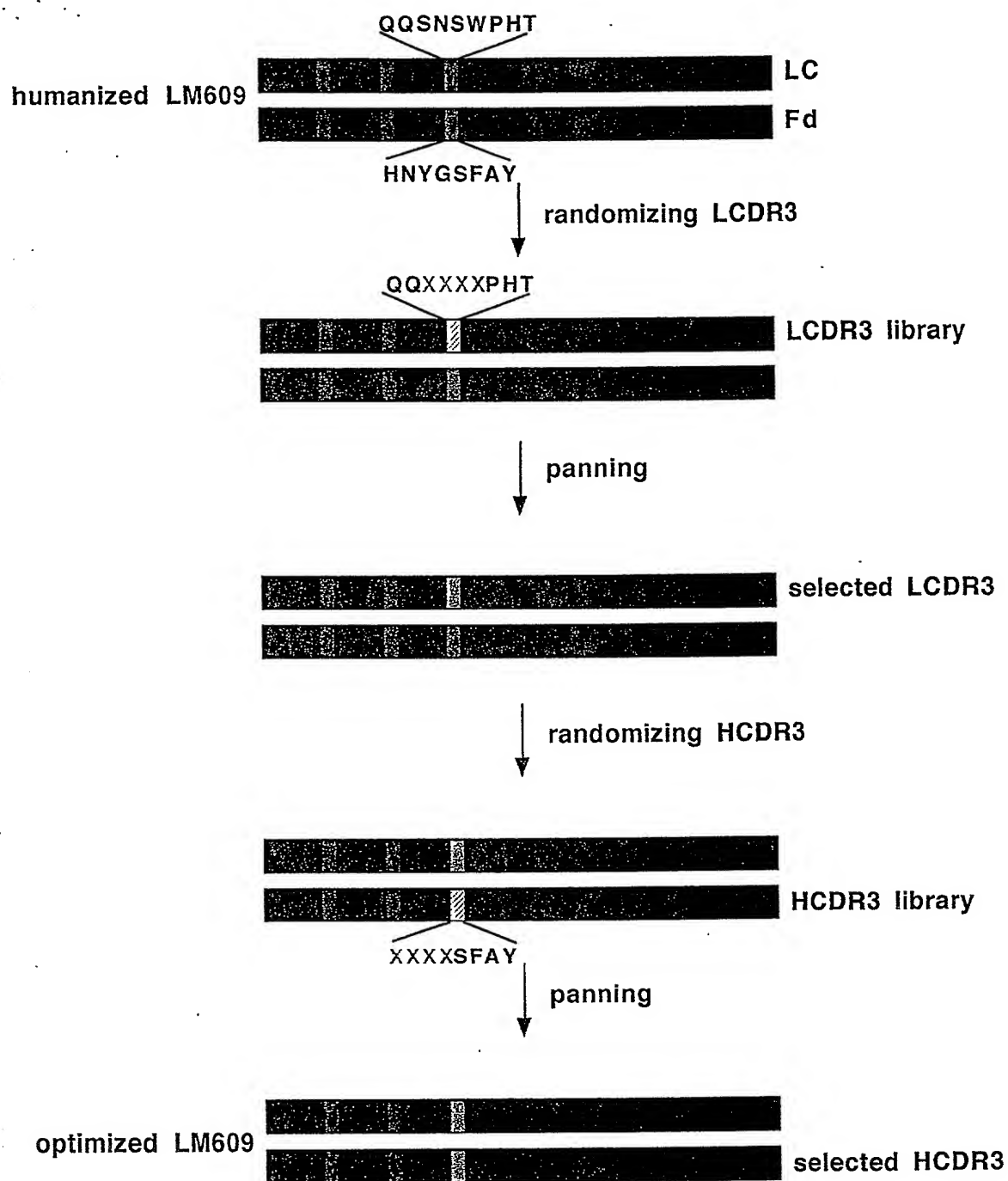


FIGURE 7

FIGURE 8a

$V_L$  amino acid sequences

FR1  
mouse  
 Glu Leu Val Met Thr Gln Thr Pro Ala Thr Leu Ser Val Thr Pro Gly Asp Ser Val Ser Leu Ser Cys  
human (Group A)  
 Glu Leu Val Met Thr Gln Ser Pro Glu Phe Gln Ser Val Thr Pro Lys Glu Thr Val Thr Ile Thr Cys  
human (Groups BCDE)  
 Glu Leu Val Met Thr Gln Ser Pro Glu Phe Gln Ser Val Thr Pro Lys Glu Thr Val Thr Ile Thr Cys

CDR1  
mouse  
 Arg Ala Ser Gln Ser Ile Ser Asn His Leu His  
human (Group A)  
 Arg Ala Ser Gln Asp Ile Gly Thr Ser Leu His  
human (Groups BCDE)  
 Arg Ala Ser Gln Asp Ile Gly Asn Ser Leu His

FR2  
mouse  
 Trp Tyr Gln Gln Lys Ser His Glu Ser Pro Arg Leu Leu Ile Lys  
human (Group A)  
 Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Lys  
human (Groups BCDE)  
 Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Lys

CDR2  
mouse  
 Tyr Ala Ser Gln Ser Ile Ser  
human (Group A)  
 Tyr Ala Ser Gln Pro Val Phe  
human (Groups BCDE)  
 Tyr Ala Ser Gln Pro Val Phe

**FIGURE 8b**

$V_L$  amino acid sequences

FR3  
mouse  
Gly Ile Pro ser Arg Phe Ser Arg Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Asn Ser Val  
Glu Thr Glu Asp Phe Gly Met Tyr Phe Cys  
human (Group A)  
Gly Val Pro Ser Arg Phe Arg Gly Ser Gly ser Gly Thr Asp Phe Thr Leu Thr Ile Tyr Ser Leu  
Glu Ala Glu Asp Phe Ala Val Tyr Tyr Cys  
human (Group BCDE)  
Gly Val Pro Ser Arg Phe Arg Gly Ser Gly ser Gly Thr Asp Phe Thr Leu Thr Ile ser Arg Leu  
Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys

[illegible]

FIGURE 8c

V<sub>H</sub> amino acid sequences

FR1	
<u>mouse</u>	
Glu Val Gln Leu Glu Glu Ser Gly Gly Leu Val Lys Pro Gly Gly Ser Leu Lys Leu Ser Cys	
Ala Ala Ser Gly Phe Ala Phe Ser	
<u>human (Group A)</u>	
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Arg Lys Pro Gly Ser Ser Val Arg Val Ser Cys	
Lys Ala Ser Gly Gly Thr Phe Ser	
<u>human (Group B)</u>	
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Thr Leu Ser Leu Thr Cys	
Thr Val Ser Gly Ala Ser Ile Ser	
<u>human (Group C)</u>	
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Thr Leu Phe Leu Thr Cys	
Thr Val Ser Gly Gly Ser Ile Ser	
<u>human (Group D)</u>	
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Thr Leu Ser Leu Thr Cys	
Thr Val Ser Gly Gly Ser Ile Ser	
<u>human (Group E)</u>	
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Thr Leu Ser Leu Thr Cys	
Ser Val Ser Gly Gly Ser Ile Ser	
CDR1	
<u>mouse</u>	
Ser Tyr Asp Met Ser	
<u>human (Group A)</u>	
Gly Phe Ala Val Ser	
<u>human (Group B)</u>	
Arg Gly Gly Tyr Tyr Trp Ser	
<u>human (Group C)</u>	
Ser Gly Gly Tyr Tyr Trp Ser	
<u>human (Group D)</u>	
Ser Gly Gly Tyr Tyr Trp Ser	
<u>human (Group E)</u>	
Ser Gly Gly Tyr Tyr Trp Ser	
FR2	
<u>mouse</u>	
Trp Val Arg Gln Ile Pro Glu Lys Arg Leu Glu Trp Val Ala	
<u>human (Group A)</u>	
Trp Val Arg Gln Ala Pro Gly Gln Arg Phe Glu Trp Leu Gly	
<u>human (Group B)</u>	
Trp Ile Arg Gln Tyr Pro Gly Lys Gly Leu Glu Trp Ile Gly	
<u>human (Group C)</u>	
Trp Ile Arg His His Pro Gly Lys Gly Leu Glu Trp Ile Gly	
<u>human (Group D)</u>	
Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp Ile Gly	
<u>human (Group E)</u>	
Trp Ile Arg His His Pro Gly Lys Gly Leu Glu Trp Ile Gly	

FIGURE 8d

V<sub>H</sub> amino acid sequences

CDR2

mouse  
 Lys Val Ser Ser Gly Gly Gly Ser Thr Tyr Tyr Leu Asp Thr Val Gln Gly  
human (Group A)  
 Gly Ile Val Ala Ser Leu Gly Ser Thr Asp Tyr Ala Gln Lys Phe Gln Asp  
human (Group B)  
 Tyr Ile His His Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Ser Leu Lys Ser  
human (Group C)  
 Tyr Ile His His Arg Ala Ala Pro Tyr Tyr Asn Pro Ser Ser Leu Lys Ser  
human (Group D)  
 Tyr Ile His His Ser Ala Gly Thr Tyr Tyr Asn Pro Ser Ser Leu Lys Ser  
human (Group E)  
 Tyr Ile His His Ser Ala Gly Thr Tyr Tyr Asn Pro Ser Ser Leu Lys Ser

FR3

mouse  
 Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Asn Ser  
 Glu Asp Thr Ala Met Tyr Tyr Cys Ala Arg  
human (Group A)  
 Lys Leu Thr Ile Thr Val Asp Glu Ser Thr Thr Ala Thr Val Tyr Met Glu Met Arg Asn Leu Arg Ser  
 Asp Asp Thr Ala Val Tyr Tyr Cys Ala Ar  
human (Group B)  
 Arg Val Thr Ile Ala Ile Asp Thr Ser Lys Asn Gln Leu Ser Ser Leu Arg Leu Thr Ser Val Thr Ala  
 Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg  
human (Group C)  
 Arg Val Thr Ile Ser Val Asp Thr Ser Arg Asn Asn Gln Ile Ser Ser Leu Lys Leu Arg Ser Val Thr Ala  
 Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg  
human (Group D)  
 Arg Val Thr Met Ser Val Asp Thr Ser Lys Asn Gln Leu Ser Ser Leu Lys Leu Thr Ser Val Thr Ala  
 Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg  
human (Group E)  
 Arg Val Thr Met Ser Ala Asp Thr Ser Lys Asn Gln Leu Ser Ser Leu Lys Leu Ala Ser Val Thr Ala  
 Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg

**FIGURE 8e**

$V_H$  amino acid sequences

CDR3	mouse	FR4	mouse
His Asn Tyr Gly	Ser Phe Ala Tyr	Trp Gly Gln Gly	Thr Leu Val Thr Val Ser Ala
<u>human (Group A)</u>		<u>human (Group A)</u>	
His Asn Tyr Gly	Ser Phe Ala Tyr	Trp Gly Gln Gly	Thr Leu Val Thr Val Ser Ser
<u>human (Group B)</u>		<u>human (Group B)</u>	
His Asn Tyr Gly	Ser Phe Ala Tyr	Trp Gly Gln Gly	Thr Leu Val Thr Val Ser Ser
<u>human (Group C)</u>		<u>human (Group C)</u>	
His Asn Tyr Gly	Ser Phe Ala Tyr	Trp Gly Gln Gly	Thr Leu Val Thr Val Ser Ser
<u>human (Group D)</u>		<u>human (Group D)</u>	
His Asn Tyr Gly	Ser Phe Ala Tyr	Trp Gly Gln Gly	Thr Leu Val Thr Val Ser Ser
<u>human (Group E)</u>		<u>human (Group E)</u>	
His Asn Tyr Gly	Ser Phe Ala Tyr	Trp Gly Gln Gly	Thr Leu Val Thr Val Ser Ser